

# State of Iowa - Return on Investment Program / IT Project Evaluation

Tracking Number (For Project Office Use)

## SECTION 1: PROPOSAL

Project Name: RAID storage system

Date: 09/10/00

Agency Point of Contact for Project: Chuck Levy

Agency Point of Contact Phone Number / E-mail: 242-5362 / chuck.levy@icva.state.ia.us

Executive Sponsor (Agency Director or Designee) Signature: \_\_\_\_\_

Is this project necessary for compliance with a Federal standard, initiative, or statute? (If "Yes," cite specific requirement, attach copy of requirement, and explain in Proposal Summary) ☐ Yes ☒ No

Is this project required by State statute? (If "Yes," explain in Proposal Summary) ☐ Yes ☒ No

Does this project meet a health, safety or security requirement? (If "Yes," explain in Proposal Summary) ☐ Yes ☒ No

Is this project necessary for compliance with an enterprise technology standard? (If "Yes," explain in Proposal Summary) ☐ Yes ☒ No

Does this project contribute to meeting a strategic goal of government? (If "Yes," explain in Proposal Summary) ☒ Yes ☐ No

Is this a "research and development" project? (If "Yes," explain in Proposal Summary) ☐ Yes ☒ No

## PROPOSAL SUMMARY:

In written detail, explain why the project is being undertaken and the results that are expected. This includes, but is not limited to, the following:

1. A pre-project (before implementation) and a post-project (after implementation) description of the system or process that will be impacted.

Pre-project: The existing antiquated CD-jukebox storage system is limited in the number of CD slots available to add records to the database. Access to the data is frustratingly slow and will allow only one user at a time to look up information due to limitations of the CD-ROM drives. The CD's themselves are becoming scratched. As the discs degrade, the information on this media cannot be restored without completing another scan of the documents on the discs, as well as creation of a new index. Erroneous data cannot be rectified with a simple change in the document, there must instead be a change to the entire CD.

Post-project: New RAID system will allow concurrent access to all data and availability of the data core will no longer be restricted to the file server and can be located directly on the storage media itself. File access will no longer take longer than 10-12 minutes per search and replacement of the media itself will be covered under service and maintenance agreements and will only be necessary when a hard drive fails. Any changes to information on the system can be made as easily as changing data on a hard drive, a basic cut and paste.

2. A summary of the extent to which the project provides tangible and intangible benefits to either Iowa citizens or to State government. Included would be such items as qualifying for additional matching funds, improving the quality of life, reducing the government hassle factor, providing enhanced services, improving work processes, complying with enterprise technology standards, meeting a strategic goal, avoiding the loss of matching funds, avoiding program penalties/sanctions or interest charges, avoiding risks to health/security/safety, complying with federal or state laws, etc.

The RAID system is a group of hot-swappable hard drives arrayed into one large logical drive. The architecture of the system is such that these drives can be switched out if needed and the system can be updated without any data loss or time down. The drives themselves are much faster than the CD jukebox and the data itself will be much more reliable, as we can make any necessary changes to these files immediately, without having to write to a new CD. This will speed up work processes within the office and reduce the amount of time an Iowa citizen needs to hold on the line and wait for their information (hassle factor). It will provide enhanced service by allowing our file retrieval system to cross-index all military records, which was not capable with the old jukebox hardware.

3. A summary that identifies the project stakeholders and how they are impacted by the project.

Stakeholders: All members of the ICVA administrative staff, Iowa citizens served by the ICVA, Veteran Service Organizations, as well as state and county government offices that have use of the ICVA's military service records and information.

## **SECTION 2: PROJECT PLAN**

Individual project plans will vary depending upon the size and complexity of the project. A project plan includes the following information:

### **1. Agency Information**

**Project Executive Sponsor Responsibilities:** Identify, in Section I, the executive who is the sponsor of the project. The sponsor must have the authority to ensure that adequate resources are available for the entire project, that there is commitment and support for the project, and that the organization will achieve successful project implementation.

Brian Bales, Executive Director of Iowa Commission of Veteran's Affairs, will be the sponsor of this project. A decision package for the ICVA's budget will provide funds for this project. ICVA's commitment and support for this project will consist of the designation of a project administrator, whose responsibility will be to verify accuracy of the finished work, and to keep all areas of the project on task and within timetable constraints.

**Organization Skills:** Identify the skills that are necessary for successful project implementation. Identify which of these skills are available within the agency and the source(s) and acquisition plan for the skills that are lacking.

The ICVA IT staff will supply the needed knowledge and experience for installation of the RAID storage system to the other needed systems, such as hard drive installation, network connection to the file server and software configuration of new system. The ICVA IT staff will do all work necessary for timely completion of this project.

## 2. Project Information

**Mission, Goals, Objectives:** The project plan should clearly demonstrate that the project has developed from an idea to a detailed plan of action. The project plan must link the project to an agency's mission, goals, and objectives and define project objectives and how they will be reached. The project plan should include the following:

- A. **Expectations:** A description of the purpose or reason that the effort is being undertaken and the results that are anticipated.

This project is being implemented to increase the efficiency of our current retrieval system and the business processes linked to it. Accurate and rapid acquisition of military records and associated histories are critical for day to day operation of the ICVA office and reduction of the "hassle-factor" to Iowans requesting these documents is essential.

- B. **Measures:** A description of the set of beliefs, tradeoffs and philosophies that govern the results of the project and their attainment. How is the project to be judged or valued? What criteria will be used to determine if the project is successful? What happens if the project fails?

The time taken to access records via the FileTrax system software will be assessed and documented. The system itself is based on access times to track data on a hard drive, which is usually based on milliseconds, while the access times for the CD storage system prior to the project is usually measured in the seconds or tens of seconds. Success will be affirmed if the retrieval process is accomplished within a few seconds instead of the 6 to 10 minutes currently needed per search. The RAID system will also allow concurrent access to the system for all members of the ICVA, where the CD jukebox only allowed a "one-at-a-time" type of entry. This will allow the staff to help more than one person, when necessary.

- C. **Environment:** Who will provide input (e.g., businesses, other agencies, citizens) into the development of the solution? Are others creating similar or related projects? Are there cooperation opportunities?

We will be in cooperation with ImageMax, Inc. of Lincoln, NE, the original vendor of the FileTrax storage and retrieval software in use in the ICVA office.

- D. **Project Management and Risk Mitigation:** A description of how you plan to manage the project budget, project scope, vendors, contracts and business process change (if applicable). Describe how you plan to mitigate project risk.

The project's budget will be managed by the ICVA, with funds being distributed as needed on the purchases of equipment or service rendered. A program manager will be appointed from the IT department and will be responsible for all areas of management for this project.

- E. **Security / Data Integrity / Data Accuracy / Information Privacy:** A description of the security requirements of the project? How will these requirements be integrated

into the project and tested. What measures will be taken to insure data integrity, data accuracy and information privacy?

The RAID system is comparable to standard RAID architecture used in providing data integrity to file and Internet servers worldwide. The disk protection is the same type of striping and parity that is applied to storage in these types of servers and is one of the largest factors in our decision to implement this project. All information will be tested in a laboratory type of environment where all areas relating to the file system will be verified to work correctly with the same type of hardware configuration as used in the ICVA office before transferring the data core to the storage system. After successful testing, the records will be moved from the CD jukebox to the RAID system. The CD jukebox will then be used as a backup and removed from direct contact with the server.

### **3. Current Technology Environment (Describe the following):**

#### **A. Software (Client Side / Server Side / Midrange / Mainframe)**

- Application software
- Operating system software
- Interfaces to other systems: Identify important or major interfaces to internal and external systems

The application software for the document storage and retrieval system FileTrax by ImageMax, Inc. of Lincoln, NE will be the project's platform for day to day usage.  
The operating system is Microsoft's Windows NT 4.0 and NT 4.0.

#### **B. Hardware (Client Side / Server Side / Mid-range / Mainframe):**

- Platform, operating system, storage and physical environmental requirements.
- Connectivity and Bandwidth: If applicable, describe logical and physical connectivity.
- Interfaces to other systems: Identify important or major interfaces to internal and external systems.

A dual processor based 500 MHz files server with more than 21 GB of storage space and connected to the CD jukebox provides the main access across the ICVA's 10 MB Ethernet network. Currently there are no external interfaces to the file server beyond the National Guard router and Internet installation. Internal interfaces are limited to individual workstations connected to the file server via CAT-5 cabling and Ethernet hubs.

### **4. Proposed Environment (Describe the following):**

#### **A. Software (Client Side / Server side / Mid-range / Mainframe)**

- Application software.
- Operating system software.
- Interfaces to other systems: Identify important or major interfaces to internal and external systems.
- General parameters if specific parameters are unknown or to be determined.

There will be no changes to the software end of the project. Current software already in place within the office will work with the new hardware as is. Storage management software is included in the RAID system hardware and is easily configurable.

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## B. Hardware (Client Side / Server Side / Mid-range / Mainframe)

- Platform, operating system, storage and physical environmental requirements.
- Connectivity and Bandwidth: If applicable, describe logical and physical connectivity.
- Interfaces to other systems: Identify important or major interfaces to internal and external systems.
- General parameters if specific parameters are unknown or to be determined.

A 9 bay enclosure with 9 - 36 gigabyte LVD SCSI hard drives, a dual channel PCI hardware RAID controller and 128 MB ECC Cache RAM. Dual redundant hot-swap power supplies are also included.

**Data Elements:** If the project creates a new database the project plan should include the specific software involved and a general description of the data elements.

N/A

**Project Schedule:** A schedule that includes: time lines, resources, tasks, checkpoints, deliverables and responsible parties.

- Purchase of equipment: shipping time – approximately 10 days.
- Installation of RAID system on lab server and testing: 7-10 days.
- Rollout of new system to existing office environment: 3-7 days.



**Annual Pre-Project Cost** -- Quantify, in written detail, all actual State government direct and indirect costs (personnel, support, equipment, etc.) associated with the activity, system or process prior to project implementation. This section should be completed only if State government costs are expected to be reduced as a result of project implementation.

**Annual Post-Project Cost** -- Quantify, in written detail, all estimated State government direct and indirect costs associated with activity, system or process after project implementation. This section should be completed only if State government costs are expected to be reduced as a result of project implementation.

**State Government Benefit** -- Subtract the total “Annual Post-Project Cost” from the total “Annual Pre-Project Cost.” This section should be completed only if State government costs are expected to be reduced as a result of project implementation.

**Citizen Benefit** -- Quantify, in written detail, the estimated annual value of the project to Iowa citizens. This includes the “hard cost” value of avoiding expenses (hidden taxes) related to conducting business with State government. These expenses may be of a personal or business nature. They could be related to transportation, the time expended on or waiting for the manual processing of governmental paperwork such as licenses or applications, taking time off work, mailing, or other similar expenses.

**Opportunity Value/Risk or Loss Avoidance Benefit** -- Quantify, in written detail, the estimated annual benefit to Iowa citizens or to State government. This could include such items as qualifying for additional matching funds, avoiding the loss of matching funds, avoiding program penalties/sanctions or interest charges, avoiding risks to health/security/safety, avoiding the consequences of not complying with State or federal laws, providing enhanced services, avoiding the consequences of not complying with enterprise technology standards, etc.

**Total Annual Project Benefit** -- Add the values of all annual benefit categories.

**Total Annual Project Cost** -- Quantify, in written detail, the estimated annual new cost necessary to implement and maintain the project including consulting fees, equipment retirement, ongoing expenses (i.e. labor, etc.), other technology (hardware, software and development), and any other specifically identifiable project related expense. In general, to calculate the annual hardware cost, divide the hardware and associated costs by three (3), the useful life. In general, to calculate the annual software cost, divide the software and associated costs by four (4), the useful life. This may require assigning consulting fees to hardware cost or to software cost. A different useful life may be used if it can be documented.

**Benefit / Cost Ratio** -- Divide the “Total Annual Project Benefit” by the “Total Annual Project Cost.” If the resulting figure is greater than one (1.00), then the annual project benefits exceed the annual project cost. If the resulting figure is less than one (1.00), then the annual project benefits are less than the annual project cost.

**ROI** -- Subtract the “Total Annual Project Cost” from the “Total Annual Project Benefit” and divide by the amount of the requested State IT project funds.

**Benefits Not Cost Related or Quantifiable** -- List the project benefits and articulate, in written detail, why they (IT innovation, unique system application, utilization of new technology, hidden taxes, improving the quality of life, reducing the government hassle factor, meeting a strategic goal, etc.) are not cost related or quantifiable. Rate the importance of these benefits on a “1 – 10” basis, with “10” being of highest importance. Check the “Benefits Not Cost Related or Quantifiable” box in the applicable row.



## ROI Financial Worksheet

### Annual Pre-Project Cost - How You Perform The Function(s) Now

FTE Cost (salary plus benefits):	<b>\$38,282.00</b>
Support Cost (i.e. office supplies, telephone, pagers, travel, etc.):	<b>\$4,500.00</b>
Other Cost (expense items other than FTEs & support costs, i.e. indirect costs if applicable, etc.):	<b>\$0.00</b>
<b>A. Total Annual Pre-Project Cost:</b>	<b>\$42,782.00</b>

### Annual Post-Project Cost – How You Propose to Perform the Function(s)

FTE Cost:	<b>\$7,503.00</b>
Support Cost (i.e. office supplies, telephone, pagers, travel, etc.):	<b>\$4,500.00</b>
Other Cost (expense items other than FTEs & support costs, i.e. indirect costs if applicable, etc.):	<b>\$0.00</b>
<b>B. Total Annual Post-Project Cost:</b>	<b>\$12,003.00</b>
<b>State Government Benefit ( = A-B ):</b>	<b>\$30,779.00</b>

### Annual Benefit Summary

State Government Benefit:	<b>\$30,779.00</b>
Citizen Benefit (including quantifiable “hidden taxes”):	<b>\$18,200.00</b>
Opportunity Value and Risk/Loss Avoidance Benefit:	<b>\$0.00</b>
<b>C. Total Annual Project Benefit:</b>	<b>\$48,979.00</b>
<b>D. Total Annual Project Cost:</b>	<b>\$6,000.00</b>
<b>Benefit / Cost Ratio (C / D):</b>	<b><u>8.16</u></b>
<b>ROI (C – D / Requested State IT Project Funds):</b>	<b>191%</b>

**X Benefits Not Cost Related or Quantifiable (including non-quantifiable “hidden taxes”)**



**Annual Pre-Project Cost** – Assuming office personnel using old CD jukebox storage system and it's inherent slow search times and servicing approximately 45 records per day and a search time of 12 minutes per record: this comes down 9 hours of individual searching. With 2 office personnel sharing the load, the workload drops to 4.5 hours daily @ 32.72/hr. These costs include time to thoroughly research a veteran's record in its entirety. With 5 separate databases, this process is long and involved with the antiquated system. Total \$736.20/week or yearly FTE Costs = \$38,282.00.

Support costs include the costs of printing and certifying these veterans records along with fax or mailing costs.

**Annual Post-Project Cost** – Costs drop substantially. The breakdown includes 2 hours daily for record searching for only the Graves Registrar, as contrasted to both office personnel searching in pre-project scenarios. Time for record search with the state-of-the-art RAID system drops down to a maximum of 2.5 minutes per search. Graves Registrar wage rate is \$14.43/hr. Using the 45 records per day search criteria, this total is now approximately 2 hours per day. \$144.30/wk or \$7,503.00/yearly.

Support costs remain the same as pre-project.

**Citizen Benefit** – With this new system in place, the speed at which we can search for records and get them into the hands of the requesting party is greatly increased. Currently, searches take approximately 9 hours a day. Assuming an hourly rate of \$10 for time missed to come in for searches, the cost to the Iowa veteran is \$90/day, \$450/wk and \$23,400/yearly. When the service time drops to 2 hours per day (\$5,200/yearly), this will be a benefit of \$18,200. This will be a direct benefit to Iowa's veterans in the savings of time to search for these vital records.

**Total Annual Project Cost** – Project costs include: \$18,000.00 for the RAID hardware and related peripheral devices and \$4,500.00 for maintenance.

The Iowa Commission of Veteran's Affairs has a commitment to provide Iowa's 286,000 veterans, veteran service organizations, and the spouses and family members of veterans who have given their lives in service to the United States with their military records when needed. As these veterans age, it becomes critically important that the ICVA is able to provide these 4 million electronic records using state-of-the-art hardware and software and to not allow the older, slower systems to affect how benefits and aid can be provided to the veteran. By ensuring that these necessary documents are easy to locate and retrieve those organizations that depend on these papers to admit or process benefit applications will be able to do so with a minimum amount of wasted time. In the eyes of the older Iowa veteran in need of this medical care or service, this "improvement" will be an expected necessity. The faster we can get complete information into the veteran's hands, the greater the benefit will be, as the public believes that the Vets Affairs information system is very inefficient and time consuming.